

淡江大學九十七學年度第二學期課程教學計畫表

壹、科目名稱：高等土壤力學 Advanced Soil Mechanics

貳、授課老師：祝錫智

參、開課班級：碩士班

肆、必選修：選修

伍、學分數：3學分

陸、先修科目：土壤力學（一、二）

柒、教學內容及進度：

土壤及種類

土壤之應力

複習應力圓

複習土壤剪力強度

土壤穩定性問題簡介

土壓力--Rankine法、Coulomb法、螺線-直線破壞面；其他方法

承載力---被動土壓力之應用、Terzaghi方法、承載力公式之一般形式

邊坡穩定問題---常用及基本解法

一些黏土壓密問題

其他相關問題

捌、授課方式：課堂講授

玖、教學設備：投影機

拾、教材課本：無、自編講義

拾壹、參考書籍：(見另頁)

拾貳、成績考核方式：

平時考、期中考、期末考共同計分

拾參、工具書

1. 地質學名詞(國立編譯館)
2. 地工名詞英漢對照(鄭文龍)
3. 大地工程名詞統一譯名(土木水利工程學會)
4. 最新大地工程辭典(游啓亨)

拾肆、備註

每次上課及考試均需帶製圖工具及計算機

參考書籍：

1. Das, B. M. (1985), *Advanced Soil Mechanics*, McGraw Hill, New York. ISBN: 007Y66237-1.
2. Harr, M. E. (1966), *Foundations of Theoretical Soil Mechanics*, McGraw Hill, New York.
3. Kezdi, A. (1979), *Handbook of Soil Mechanics, Volume 1: Soil Physics*, Elsevier Scientific Publishing Company, Amsterdam.
4. Lambe, T. W. and Whitman, R. V. (1969), *Soil Mechanics*, Wiley and Sons, New York.
5. Poulos, H. G. and Davis, E. H. (1974), *Elastic Solutions for Soil and Rock Mechanics*.
6. Schofield, A. N. and Wroth, C. P. (1968), *Critical State Soil Mechanics*, McGraw Hill, Berkshire, England.
7. Scott, R. F. (1963), *Principles of Soil Mechanics*, Addison-Wesley, Reading, Mass.
8. Sokolovski, V. V. (1965), *Statics of Granular Media*, (Translated from 1960 Russian edition by J. K. Lusher, edited by A.W.T. Daniel), Pergamon, London.
9. Taylor, D. W. (1948), *Fundamentals of Soil Mechanics*, Wiley and Sons, New York.
10. Terzaghi, K. (1943), *Theoretical Soil Mechanics*, Wiley and Sons, New York.
11. Terzaghi, K., Peck, R. B. and Mesri, G. (1996), *Soil Mechanics in Engineering Practice*, Wiley and Sons, New York. (3rd Edition)
12. Tschebotarioff, G. P. (1973), *Retaining and Earth Structures*, McGraw Hill, New York. (2nd Edition)

REFERENCE SOURCES

1. Journals

- a. *Geotechnique* (The Institution of Civil Engineers, England)
- b. *Journal of Geotechnical and Environmental Engineering* (ASCE)
(formerly *Journal of Geotechnical Engineering*, *Journal of the Soil Mechanics and Foundation Division*)
- c. *Canadian Geotechnical Journal* (Canadian Geotechnical Society)
- d. *Soils and Foundations* (The Japanese Society of Soil Mechanics and Foundation Engineering)
- e. *Geotechnical Testing Journal* (ASTM)
- f. *International Journal for Numerical and Analytical Methods in Geomechanics* (Wiley)
- g. *Geotechnical News* (Canadian Geotechnical Society)
- h. *Ground Engineering* (Thomas Telford)
- i. *electronic journal of geotechnical engineering* (<http://geotech.civen.okstate.edu/ejge/>)

2. International Conference on Soil Mechanics and Foundation Engineering (ICSMFE)

International Conference on Soil Mechanics and Geotechnical Engineering (ICSMGE)

1936 Cambridge, Mass.	1948 Rotterdam	1953 Zurich
1957 London	1961 Paris	1965 Montreal
1969 Mexico City	1973 Moscow	1977 Tokyo
1981 Stockholm	1985 San Francisco	1989 Rio de Janeiro
1994 New Delhi	1997 Hamberg	2001 Istanbul

3. Regional Conferences

(Asian, Pan American, Australia-New Zealand, European, etc.)

4. ASCE Speciality Conferences

- 1st: Shear Strength of Cohesive Soils (1960)
 - 2nd: Design of Foundations for Control of Settlement (1964)
 - 3rd: Placement and Improvement of Soil to Support Structures (1968)
 - 4th: Lateral Stresses in the Ground and Design of Earth Retaining Structures (1970)
 - 5th: Performance of Earth and Earth Supported Structures (1972)
 - 6th: Analysis and Design in Geotechnical Engineering (1974)
 - 7th: In Situ Measurements of Soil Properties (1975)
 - 8th: Rock Engineering for Foundations and Slopes (1976)
 - 9th: Geotechnical Practice for Disposal of Solid Waste Materials (1977)
 - 10th: Earthquake Engineering and Soil Dynamics (1978)
 - 11th: Grouting in Geotechnical Engineering (1982)
 - 12th: Engineering and Construction in Tropical and Residual Soils (1982)
 - 13th: Geotechnical Practice in Offshore Engineering (1983)
 - 14th: Use of In Situ Tests in Geotechnical Engineering (1986)
- [自1987起改爲Geotechnical Special Publication #]

5. ASTM

- a. Standards
- b. Journal of Materials
- c. Materials Research and Standards
- d. STP (Special Technical Publication)

6. Transportation Research Board (formerly Highway Research Board)

7. Government

- a. WES (Waterways Experimental Station)
- b. Corps of Engineers
- c. Air Force (AFSWC)
- d. Bureau of Reclamation

8. Misc.

- a. Norwegian Geotechnical Institute (NGI)
- b. Swedish Geotechnical Institute (SGI)
- c. Universities -MIT, Purdue, Illinois, Berkely, Harvard, etc.
- d. Boston Society of Civil Engineers
Contribution to Soil Mechanics, 3 volumes

大學教科書：(參考)

1. Atkinson, J. (1993), *An Introduction to The Mechanics of Soils and Foundations*, McGraw- Hill, London.
2. Das, B. M. (1997), *Principles of Geotechnical Engineering*, 4th edition, PWS-KENT. (有中譯本)
3. Das, B. M. (2000), *Fundamentals of Geotechnical Engineering*, Brooks/Cole Pub Co; ISBN: 0534371140
4. Das, B. M. (2001), *Principles of Geotechnical Engineering*, 5th edition, Brooks/Cole Pub Co; ISBN: 053438742X
5. Holtz, R. D. and Kovacs, W. D. (1981), *An Introduction to Geotechnical Engineering*, Prentice-Hall, Englewood Cliffs, New Jersey. (有中譯本)
6. Jumikis, A. R. (1962), *Soil Mechanics*, D. Van Nostrand Company, Princeton, New Jersey.
7. Kezdi, A. (1979), *Handbook of Soil Mechanics*, Volume 1: Soil Physics, Elsevier Scientific Publishing Company, Amsterdam.
8. Lambe, T. W. and Whitman, R. V. (1969), *Soil Mechanics*, John Wiley and Sons, New York. (SI version, 1979)(有中譯本)
9. McCarthy, D. (2006), *Essentials of Soil Mechanics and Foundations: Basic Geotechnics*, 7th edition, Prentice Hall.
10. Perloff, W. H. and Baron, W. (1976), *Soil Mechanics: Principles and Applications*, Ronald Press, New York.
11. Sowers, G. F. (1979), *Introductory Soil Mechanics and Foundations: Geotechnical Engineering*, 4th edition, Macmillan, New York.
12. Terzaghi, K. and Peck, R. B. (1967), *Soil Mechanics in Engineering Practice*, 2nd edition, John Wiley & Sons, New York. [有中譯本, 交通部交通研究所, 64 年(上,下)]
13. Terzaghi, K. and Peck, R. B. and Mesri, G. (1996), *Soil Mechanics in Engineering Practice*, 3rd edition, John Wiley & Sons, New York.